



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,517	09/12/2003	Shu-Mei Chang	PO92279	5340

46103 7590 04/19/2006

HDSL
4331 STEVENS BATTLE LANE
FAIRFAX, VA 22033

EXAMINER

CHEN, ALAN S

ART UNIT	PAPER NUMBER
----------	--------------

2182

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/660,517		CHANG, SHU-MEI	
	Examiner		Art Unit	
	Alan S. Chen		2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-20 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

RS

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-20 are rejected under 35 USC 103(a) as being unpatentable over

Lazzarotto in view of Yen et al. (Yen).

6. Per claim 1, Lazzarotto discloses a receiver cordless input devices, providing signal reception for wireless transmission for at least two input devices to communicate with a host computer (Fig. 6B, elements 608n; Fig. 6B clearly shows the hub attaching and communicating with the host), the receiver comprising at least one primary receiving module (Fig. 6B, element 604) and one second receiving module (Fig. 6B, element 605), wherein the primary receiving module is operative to receive a wireless signal transmitted from one of the input devices (clearly untethered nature is shown in Fig. 6B), and the secondary receiving module is operative to receive a wireless signal transmitted from the other input device (each distinct antenna show the untethered communications between separate devices in Fig. 6B), and the primary and secondary receiving modules use a transmission interface to connect each other in a plug-and-play and hot plugging manner (Fig. 6B, element 610 show the USB hub being the physical USB interface to host and other physically wired USB devices). Lazzarotto further shows the hub interfacing with USB compliant devices via a physical port (Fig. 6B, element 610). Note this USB compliant device can clearly also be unplugged and plugged into the host if it has an available USB port. Per claim 7, Lazzarotto discloses a receiver for cordless input devices (Fig. 6B), comprising: a primary receiving module (Fig. 6B, element 604), operative to receive a wireless signal transmitted from a keyboard (Column 4, lines 54-64 disclose peripheral devices, element 608n can be a keyboard); and a secondary receiving module (Fig. 6B, element 604), operative to receive a wireless signal transmitted from a controller (Column 4, lines 54-64 disclose peripheral devices, element 608n can be a controller, particularly a game controller); wherein the primary

Art Unit: 2182

and secondary receiving modules are electrically connected to each other by a plug-in transmission interface (Fig. 6B, element 610 is a USB hub which is physically connected to the host by a plug).

Per claim 18, Lazzarotto discloses a receiver for cordless input devices (Fig. 6B, element 600b), including a primary receiving module operative to receive infrared signal (Column 4, lines 60-67) and a secondary receiving module operative to receive radio frequency signal (Column 4, lines 60-67), wherein the primary and secondary receiving modules are electrically connected to each other via a transmission interface (Fig. 6B, element 610 is a USB hub which is physically connected to the host by a plug).

Lazzarotto does not disclose expressly the USB compliant device being another wireless receiving module.

Yen discloses a USB hub similar to Lazzarotto's, where there are integrated wireless communication modules (Fig. 2), as well as contemplating physically being able to plug and unplug a wireless transceiver module (Fig. 1, element 18).

Lazzarotto and Yen are analogous art because they are from similar problem solving area in integrating wireless connectivity to a USB hub.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to be able to plug in a second transceiving module into the USB hub.

The suggestion/motivation for doing so would have been what has been well-known to one of ordinary skill prior to the inventions as described in paragraph 6 and Fig. 1 of Yen, where various types of wireless modules are plugged into a USB hub in order to wireless communication with peripheral devices. It is clear that both Lazzarotto and Yen attempt to

Art Unit: 2182

integrate the wireless functionality into the hub, expressly for the purpose of convenience (Paragraph 6 of Yen), however, there may be certain protocols that are were not contemplated to be used in the original design and the ability to adapt to various wireless protocols is clearly desired. Thus, having the option of plugging in a wireless transceiver module is desired, which both Lazzarotto and Yen accommodate/contemplate (Fig. 1, element 18 of Yen and Fig. 6B, element 610 of Lazzarotto).

Therefore, it would have been obvious to combine Lazzarotto with Yen for the benefit of attaching a wireless communication module such that the wireless communication module has a protocol that has not already been integrated into the USB hub.

7. Per claims 2-6, 9-10, 13, 14, 16, 17, 19 and 20, Lazzarotto further discloses claims 1,7 and 18, wherein the primary receiving module has a USB transmission plug and line (Fig. 6A, inherently so, USB plug and transmission line based on USB specification). Transmission slot is construed to be the slot on the host side, when connected, is one entire unit/apparatus.

8. Per claims 8, 11, 12 and 15, Lazzarotto further discloses the primary receiving module and secondary comprises a received integrated for receiving a wireless signal from a mouse (Column 4, lines 53-67, various wireless peripheral including mice can be attached via IF or RF).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2182

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to USB hubs with both wireless and wired connectivity:

U.S. Pat. Pub. No. US 20030163626A1 to Chen et al.

U.S. Pat. Pub. No. US 20040203415A1 to Wu

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571) 272-4083. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2182

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASC
09/21/2005



KIM HUYNH
PRIMARY EXAMINER

9/22/05